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EXAMINER

BUSS, BENJAMIN J

ART UNIT PAPER NUMBER

2129

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/868,695

Applicant(s)

ROSENFELD ET AL.

Examiner

Benjamin Buss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/20/2001 and 5/3/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office Action is in response to an AMENDMENT entered 5/24/2006 for the patent application 09/868,695 filed on 9/26/2001 as a 371 of PCT/US99/02737 filed on 2/8/1999, which is a continuation of application 09/218,945 filed 12/22/1998. The previous Office Action of 2/28/2006 is fully incorporated into this Final Office Action by reference.

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Status of Claims

Claims 1-18 are pending.

Examiner suggests that Applicant further define the following terms in the claims:

- 10 - "development phases"

Oath/Declaration

Response to Arguments

Examiner acknowledges Applicant's assertion that the inventors executing the Declaration reflect the inventive entity that is responsible for all the claimed subject matter in the Instant Application.

15

Drawings

The drawings are objected to for the following reasons:

- 20 - Figures 1-30 contain references to WO 00/38149, PCT/US99/02737 and Substitute Sheet (Rule 26).
This application is for a U.S. Patent and ancillary notation that obscures the clarity of the disclosure should be removed (MPEP §702)

This objection must be corrected.

Response to Arguments

Applicant's arguments filed 5/24/2006 have been fully considered but they are not persuasive. Applicant argues:

- 25 Applicant is amending the Figures 1-30 to remove references to WO 00138149, PCT/US99/02737. No new subject matter is added. Applicant requests withdrawal of the objections.

Examiner points out that the Office has not received a copy of the drawings as amended. Were such a copy of the drawings to be received, it would be sufficient to overcome this outstanding objection.

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Specification

The specification is objected to for the following reasons:

- Pages 1-43 contain references to WO 00/38149, PCT/US99/02737 and Substitute Sheet (Rule 26).

This application is for a U.S. Patent and ancillary notation that obscures the clarity of the disclosure
should be removed (MPEP §702)

This objection must be corrected.

Response to Arguments

Applicant's arguments filed 5/24/2006 have been fully considered but they are not persuasive. Applicant argues:

Applicant is removing pages 1-43 to remove references to WO 00138149, PCT/US99/02737. No new subject matter is added. Applicant requests withdrawal of the objections.

Examiner believes that Applicant meant to say "Applicant is amending pages 1-43" since **removing** the entire specification is clearly not the intent. However, Examiner points out that the Office has not received a copy of the specification as amended. Were such a copy of the specification to be received, it would be sufficient to overcome this outstanding objection.

Claim Rejections - 35 USC § 103

Applicant's arguments have been fully considered but are moot in view of new grounds of rejection. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Office presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Office to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1-2, 4-11 & 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Purcell* (USPN

65 5,727,161) in view of *Cook* (USPN 5,727,950) and in further view of *Goleh* (USPN 5,372,507).

Regarding claim 1:

Purcell teaches,

- (a) receiving information indicative of a goal (C1-45, especially "electronic spreadsheets are
70 well-known and powerful planning and management tools. Spreadsheets organize
and present financial or accounting information" C1 L29-40; Also see Figs. 7, 15, 19,
22-23, 34, 42-43, & 46-47)
- (b) integrating information that motivates accomplishment of the goal in a presentation (C1-45
especially "The software further...the input data" C3 L12-22)
- 75 - (c) managing information flow utilizing a table of components (C1-45 especially "Each spreadsheet
page...numbers of cells" C11 L55-65)

Purcell fails to explicitly teach:

- (a) the goal being associated with a training objective of a student, the training objective corresponding
to mirroring an actual work environment of the student;
- 80 - (c) providing a simulation of the actual work environment during the presentation, wherein each
component encapsulates a behavior and data necessary to support a related set of services through a
published interface, each said component supporting activities in a plurality of development phases of
the simulation;
- (d) evaluating progress toward the goal and providing feedback that further motivates accomplishment
85 of the goal.

Goleh teaches:

- (a) the goal being associated with a training objective of a student, the training objective corresponding
to mirroring an actual work environment of the student (C1-14 especially "The present invention
initially ... mastering the subject and engaging it professionally." C3 L24-45;
90 Also "A method for teaching the practical application of a subject. The

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student is furnished ... a simulated life-like situation having a stated goal." Abstract)

- (c) providing a simulation of the actual work environment during the presentation (C1-14 especially "The present invention initially ... mastering the subject and engaging it professionally." C3 L24-45; Also "A method for teaching the practical application of a subject. The student is furnished ... a simulated life-like situation having a stated goal." Abstract);
- (d) evaluating progress toward the goal and providing feedback that further motivates accomplishment of the goal (C1-14 especially "The present invention initially ... student is guided through these tasks accompanied by the watchful eye of the tutorial that monitors and anticipates the student's progress. ... Should the student supply an erroneous answer, the tutorial will alert the student to the error and request that the student supply the correct information. ... mastering the subject and engaging it professionally." C3 L24-45 and "The tutorial then evaluates the progress the student has made through the tutorial as a whole. ... tutorial first inquires of the student whether or not any prior transactions, including the one just-completed, should be reviewed" C9 L20-35). *The feedback of requesting the student to correct errors motivates the student to correct the errors that have been made. Also inquiring of the student whether or not any transactions should be reviewed is feedback that motivates the student to consider the correctness and completeness of the work at hand, thereby further motivating the student to correct any noticed mistakes and complete any omitted transactions. Since the goal is for the student to correctly complete the tasks provided, this limitation is clearly met.*

Motivation

Purcell and Goleh are from the same field of endeavor, computer-based finance. At the time of the invention, it would have been obvious to the person of ordinary skill in the art to train managers and investors using the machine-aided tutorial method of *Goleh* such that they understand how to use the spreadsheet analysis of *Purcell* to plan and manage economic investments and operations within a

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120 simulated life-like situation having a stated goal. Motivation for doing so would have been to provide "a
life-like situation so that the student may gain hands-on experience...[and] so
that the student can conveniently engage the tutorial method and so that the
student's progress can be monitored by the computer...[and] to provide an
interactive exercise that allows the student to independently assimilate the
necessary guidelines required for performing the life-like situations presented
125 to them" (*Goleh* C3 L54-68). Therefore, it would have been obvious to train managers and investors, with
a machine-aided tutorial method, to use spreadsheet analysis to plan and manage economic investments
and operations within a simulated life-like situation having a stated goal, as taught by the combination of
Purcell and *Goleh*, for the benefit of allowing the student to independently assimilate the guidelines
required for performing within provided life-like situation so the student may gain hands-on experience
130 while the progress of the student is monitored by a computer.

The combination of *Purcell* and *Goleh* fails to explicitly teach:

- (c) wherein each component encapsulates a behavior and data necessary to support a related set of services through a published interface, each said component supporting activities in a plurality of development phases of the simulation;

135 Cook teaches,

- (a) receiving information indicative of a goal, the goal being associated with a training objective of a student, the training objective corresponding to mirroring an actual work environment of the student (C5-63 especially "Therefore, an exemplary preferred ABI system includes one or more student client systems 201, at which student 202 receives instructional
140 presentations including homework" C15 L35-45 and "The ABI system provides an environment in which ... generate agent event messages." C31 L35-50 and "Student linking ... including simply talking with each other by voice or text or for joint work on a particular material in which the students have either similar roles, as in developing a document using a word processor, or
145 different roles, as in a simulation or game. Another activity of linked students includes group activities, in which position of participants within

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a virtual environment determines activity and role within activity. A final exemplary activity for linking student groups is moderated activity, in which participation is controlled by a special coordinating task that perhaps executes on a server system. An example of this latter activity is a spelling bee which is described in more detail subsequently." C46 L15-35 and "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data" C49 L1-20 and "Progress data includes data ... Performance data 1112 relates to student's performance over several lessons in the materials and can include mean performance, weighted moving averages of performance, patterns of performance, use of hints, use of retries, and needed remediation ... to determine whether student performance is improving or declining" C49 L1-20 and "A further important object of this invention is to ... present to students a variety of interactive, adaptive, and self-paced computer-assisted instruction and homework materials in a manner which informs the agent of a student's progress and performance and which permits the agent to manage or control the materials to the student's pedagogic characteristics. Thereby, the ABI system can effectively guide and engage students in their educational tasks" C6 L55-65 and "The materials engine can adjust its sequence of presentation in response to student responses. ... these patterns of interactions can be analyzed to provide more adaptive responses from the system." C11 L20-45; Also see Fig. 4); *It is clear that information indicative of a goal is associated with a student within the actual work environment of the student, such as a spelling bee or a specific learning assignment.*

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- 175 - (b) integrating information that motivates accomplishment of the goal for use in a presentation (C5-63 especially "it accepts data...appropriate candidate behaviors" C5 L39-55 and "The on-screen agent instructs, motivates, engages and guides its student" C5 L55-C6 L10 and "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward
- 180 graphics available on the student's screen for a period of time" C14 L15-30 and "The affect further characterizes the intent of the utterance. For example, an utterance of a "congratulations" type ... is important so that the virtual tutor aspect of the ABI system engage the student in order to improve instructional results" C58 L15-40 and "In the ABI system, the agent builds an
- 185 adaptive model of its student's pedagogic characteristics, in other words the student's cognitive styles, by monitoring the course of the student's interactive instruction." C12 L20-25 and "Agent software 108 in the ABI system builds an adapting pedagogic or cognitive model of its student ... preferably include the information from which this model is built. In general, event
- 190 messages must include such content as is necessary to describe and parametrize the pedagogic or cognitive style models adopted by the materials in an implementation of the ABI system." C14 L55-63); *The student pedagogic model is concerned with how a student learns. The agent uses this model to determine what learning styles motivate the student such that the agent may maximize tutoring effectiveness.*
- 195 - (c) managing information flow utilizing a table of components to provide a simulation of the actual work environment during the presentation, wherein each component encapsulates a behavior and data necessary to support a related set of services through a published interface, each said component supporting activities in a plurality of development phases of the simulation (C5-63 especially "FIG. 2A also shows an exemplary screen layout ... preferably partitioned so that
- 200 principal components of this invention are displayed; ... Materials area 220 is for the instructional materials, tools, and communication materials to

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present visual display objects and for these components to receive interactive input. ... The system area at top includes toolbar 218 for selecting particular available system components. In particular, always available on this toolbar are selection icons 219 for the calendar and scheduling tool. ... This software provides, among other services, support for I/O devices attached to the client, a file system with cache control, lower level network protocols, such as TCP/IP and ATM, and higher-level network protocols, such as HTTP V2.0. Basic shared ABI system capabilities are provided by executive software 223. ... Such downloading can utilize higher level network transfer protocols, or alternatively, directly use lower level network protocols." C16 L50-C17 L40 and "Instructional Materials: the components of a course of instruction ... to the student." C9 L55-63 and "Tools Data: the content ... Virtual Tutor: the ABI system components acting together to emulate a human tutor; ... personal tutor" C10 L25-35 and "§5.1.1 Functional Components ... from the system" C10 L41-C11 L42 and "This optional capability serves ... the operating system components to maintain some form of version control of the read-only data. ... access the ABI system services from any available client system at any time by simply downloading the student data object to that client system." C16 L15-30); *The table in Figure 2A allows a user access to various components of the invention through a published user interface. These components clearly encapsulate behaviors and data that are essential to providing associated services as disclosed in the above references and throughout the disclosure of the invention.*

- (d) Evaluating progress toward the goal (C5-63 especially "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance

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230 data" C49 L1-20) and providing feedback that further motivates accomplishment of the goal (C5-63
especially "in the case of a communication triggered by good performance, the
agent can select the display of sound and video clips, from a data snips
library, that the student finds pleasing. The agent can further make reward
graphics available on the student's screen for a period of time. On the
235 other hand, in the case of error the agent can point to the screen location
of the error" C14 L15-30 and "in response to a previous high or increasing error
rate of the student, the on-screen agent presents a meta-response 508
commenting on the pedagogic nature of the student's error. Further, it
activates a persona 507 to engage the student's attention. This persona can
240 advantageously include animation, audio, and speech output of the displayed
text" C26 L35-65 and "A further important...student's pedagogic characteristics" C6
L55-65; Also see Figure 4);

Motivation

Cook and the combination of *Purcell* and *Goleh* are from the same field of endeavor, computer-based
245 instruction. At the time of the invention, it would have been obvious to the person of ordinary skill in the art
to use the agent based instruction system of components with its pedagogic model as disclosed by Cook to
improve upon the training of managers and investors, with a machine-aided tutorial method, to use
spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like
situation having a stated goal as taught by the combination of *Purcell* and *Goleh*. Motivation for doing so
250 would have been to provide "to utilize augmented computer-assisted instruction
materials which present to students a variety of interactive, adaptive, and
self-paced computer-assisted instruction and homework materials in a manner
which informs the agent of a student's progress and performance and which
permits the agent to manage or control the materials to the student's pedagogic
255 characteristics. Thereby, the ABI system can effectively guide and engage
students in their educational tasks" (Cook C6 L57-65) because "It is clear to those
of skill in the art that by providing interactive, adaptive, and self-paced

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computer-assisted instruction and homework delivered over widely available computer networks this invention has immediate application in public, private, and commercial school environment of all levels. Educational research shows that instruction and homework of these characteristics improves students' educational outcomes" (*Cook* C8 L5-12) and "for interactive, adaptive, and individualized computer-assisted instruction" (*Cook* Abstract, sentence 1) and for such instruction to be "available to geographically dispersed students and from geographically dispersed schools" (*Cook* C6 L35-56). Therefore, it would have been obvious to combine *Cook* with the combination of *Purcell* and *Goleh* to get an interactive, adaptive, self-paced computer-assisted instruction and homework system delivered over widely computer networks to allow managers and investors to learn, in the individualized instruction style best suited to them, to use the spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal for the benefit of individualized instruction available to geographically dispersed students from geographically dispersed training centers.

Regarding claim 2:*Cook* discloses:

the step of instantiating a component from the table of components to measure progress toward the goal (C5-63 especially "data subtype includes ... objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data. Progress data includes data necessary for the student to leave the materials and resume the materials at the prior point" C49 L1-17 and "Teachers and administrators ... even one student" C11 L43-50 and "In the case of shared work on one materials, communications materials can generate events recording how this student in progressing with the shared materials; in the case of a contest such as a spelling bee, events recording how this student is progressing in the

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contest with respect to other contestants. In addition, in a preferred embodiment agent software 108 also receives messages describing the progress of the student through specific instructional materials. For example, in the case of mathematics materials, such messages can include information that the student is making errors in problems requiring finding common denominators. These event message should preferably all information that can be of interest to teachers and administrators for tracking student progress and tracking course adequacy" C14 L1-16). *Cook clearly instantiates data types to measure the progress of the student within the materials.*

Regarding claim 2:*Goleh* discloses:

the step of instantiating a component from the table of components to measure progress toward the goal (C1-14 especially "The present invention initially provides the accounting student with a progression of instructional and/or informative screens that set forth the knowledge required to accomplish the real-like tasks that will be required of the student. Through a menu-based system, the student is guided through these tasks accompanied by the watchful eye of the tutorial that monitors and anticipates the student's progress. As the student progresses through the tutorial, information that is necessary to the student's successful completion of the task at hand may be presented in the appropriate context most conducive to the student's best learning of the immediate subject" C3 L24-40 and "The tutorial then evaluates the progress the student has made through the tutorial as a whole" C9 L20-25).

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Regarding claim 4:

Cook discloses:

instantiating a component from the table of components to analyze progress and determine appropriate feedback (C5-63 especially "objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data. Progress data includes data necessary for the student to leave the materials and resume the materials at the prior point" C49 L1-17 and "In the case of shared work on one materials, communications materials can generate events recording how this student in progressing with the shared materials; in the case of a contest such as a spelling bee, events recording how this student is progressing in the contest with respect to other contestants. In addition, in a preferred embodiment agent software 108 also receives messages describing the progress of the student through specific instructional materials. For example, in the case of mathematics materials, such messages can include information that the student is making errors in problems requiring finding common denominators. These event message should preferably all information that can be of interest to teachers and administrators for tracking student progress and tracking course adequacy" C14 L1-16 and "These named display ... to generate displays" C60 L15-30 and "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time. On the other hand, in the case of error the agent can point to the screen location of the error" C14 L15-30 and "in response to a previous high or increasing error rate of the student, the on-screen agent presents a meta-response 508 commenting on the pedagogic nature of the student's error. Further, it activates a persona

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507 to engage the student's attention. This persona can advantageously include
340 animation, audio, and speech output of the displayed text" C26 L35-65; Also see
Figure 4).

Regarding claim 4:*Goleh* discloses:

345 instantiating a component from the table of components to analyze progress and determine appropriate
feedback (C1-14 especially "The present invention initially provides the accounting
student with a progression of instructional and/or informative screens that set
forth the knowledge required to accomplish the real-like tasks that will be
required of the student. Through a menu-based system, the student is guided
350 through these tasks accompanied by the watchful eye of the tutorial that
monitors and anticipates the student's progress. As the student progresses
through the tutorial, information that is necessary to the student's successful
completion of the task at hand may be presented in the appropriate context most
conductive to the student's best learning of the immediate subject" C3 L24-40).

355

Regarding claim 5:*Cook* discloses:

the step of instantiating a component from the table of components to evaluate options and present
360 appropriate feedback to assist a student to achieve the goal (C5-63 especially "the ABI system ... of
task scheduling" C29 L14-30 and "These named display ... to generate displays" C60 L19-
30)

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Regarding claim 6:

365 Cook discloses:

instantiating a component from the table of components to simulate a business application (C5-63 especially "An object of this invention is reporting of ... in existing computer-assisted instruction systems" C7 L42-50 and Table 3 in C52 L55-65 and "These named display ... to generate displays" C60 L19-30).

370

Regarding claim 6:

Goleh discloses:

instantiating a component from the table of components to simulate a business application (C1-14 especially "Upon correctly preparing the post-closing trial balance, the tutorial programs has been completed by the student 314. The student has completed a

375 life-like tutorial using tools and materials similar to that of a real-life accountant in a real-life situation. The different tasks performed by the student are available for review" C12 L59-65 and "In one embodiment of the accounting tutorial embodiment, sixty-three (63) different transactions are

380 subject to correct student interpretation and responses. These sixty-three transactions represent the entirety of transactions for one accounting period (one month) for a fictional auto parts supply shop. Once the student has correctly entered all sixty-three transactions into the books of the auto supply shop, the tutorial recognizes at step 256 in FIG. 2c that the

385 transactions are at an end and that the month-end accounting procedure now needs to be engaged. Other accounting tutorial embodiments can present transaction for other forms of businesses like services, manufacturing, etc" C10 L5-17).

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390 Regarding claim 6:*Purcell* discloses:

instantiating a component from the table of components to simulate a business application (C1-45 especially "Compared to conventional formats of quantitative information on business-financial plan, such as ubiquitous spreadsheet tables, each of the invention's graphic analyses represents development and delivery of a vast amount of planning and decision-making information and value in concise visual format" C33 L10-17 and "With a very wide range of business-financial users, most of which are not mathematical experts, this spreadsheet characteristic facilitates wider business-financial use" C12 L25-30; Also see Figures 1-54).

400

Regarding claim 7:*Purcell* discloses:

instantiating a component from the table of components to interact with a quantitative analysis model to perform what-if analysis (C1-45 especially "In a first integrated or subcombination process, steps 610-612 are performed. From these steps, the computer system 100 through user selection of a goal and one or more factors develops and displays graphic analyses showing goal-factor relationships and panoramas of combinations of factor variant data and goal variant data across ranges above and below values contained in the spreadsheet plan-model, representing a great number of what-if possibilities. A second integrated process or subcombination adds the step 613 to steps 610-612. Specifically, after the created graphic analysis with graph lines is displayed, interactive explorations of what-if possibilities are conducted" C13 L49-62; Also "Selected graphic analyses can be saved in a method and customized user interface that simplify later redevelopment of the graphic analyses ready for further interactive moves to what-if possibilities" Abstract, last sentence).

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Regarding claim 8:

Cook discloses:

420 instantiating a component from the table of components to interact with a student utilizing rule-based logic
(C5-63 especially "The materials data includes display objects containing the
substance of the instruction, logic to sequence the display according to
student input, and notations" C7 L1-5 and "The second step is the selection of the
sequencing logic for the ordered display of the objects to the student and the
425 educationally appropriate reaction to student requests and responses. The
sequencing logic can reference instructional controls set by agent software
108, such as a command to increase example density, and preferably is chosen in
light of principles of educational psychology and practice as detailed above.
The third step is the specification of interactions with a student's agent or
430 virtual tutor, a key component of the ABI system. This specification is made by
augmenting the sequencing logic with "notations," which are referenced, called,
or executed by the sequencing logic during object presentation and that
communicate with the agent, in a preferred embodiment by exchanging messages.
In the ABI system, the agent builds an adaptive model of its student's
435 pedagogic characteristics, in other words the student's cognitive styles, by
monitoring the course of the student's interactive instruction" C12 L5-25 and
"These named display ... to generate displays" C60 L19-30 and "The sequencing logic
causes this display in view of the variables and other information in the
materials data and any student input" C42 L15-20).

440

Regarding claim 9:

Cook discloses:

instantiating a component from the table of components to present a time based simulation (C5-63
especially and "The following general principles ... the system preferably provides
445 task specific hints or suggestions if no user input is received in a time

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period adaptively determined. ... current context" C28 L12-25 and "The corresponding event message can include ... the expected time to complete ... In response, the materials can generate several messages: a first message can include the time required to make the answer ... Another educationally significant point can be a long delay in receiving the next student input, at which point the materials engine can send an asynchronous message indicating the time elapsed" C13 L45-65 and "Exemplary coaching parameters include the time pacing of exercises, the new concept seeding rate and the density of examples. In this manner, the materials can present interactive instruction according to optimal values of the pedagogic characteristics or cognitive styles of each student as determined from the agent's observation of its student" C13 L1-10 and "The scheduling/calendar tool ... Selection of each of these parts brings up daily and monthly scheduling functions. These function can either prescribe the student's next activity or permit choice where the student has excess time or demonstrated personal scheduling ability" C25 L50-60 and "Displays from the ABI System ... time increases downward. ... at the arrow's head" C27 L50-60 and "Schedule/calendar component ... the time expected for the student to complete an activity, as determined from the student's past performance also stored ... schedule/calendar can permit OS task creation requested by the student ... and student data object" C34 L40-65 and "Having completed all possible processing of the student input action, the system now waits at wait point 717 for the next student action or time interval" C39 L64-67 and "The spelling bee activity can be scheduled for ... or selected by the student. ... No response within a specified amount of time is taken as indicating a desire not to join. ... If enough eligible students join the spelling bee, the server task continues, otherwise it sends a termination message ... and reports results" C47 L35-67 and "Materials specific performance includes, for example, weighted moving averages of data on the student's response time and response latency" C63 L3-8; Also see Table 3 in C52 L55-65). *The prior art referenced contains clear examples of*

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475 *this limitation on multiple levels of reasonable interpretation. One example is the schedule/calendar, which is the overarching time based simulation of scheduled activities. The activities themselves are also time-based simulations, since the student responses may be timed and a visible timer is disclosed for keeping the student aware of the remaining time for acting on the material presented.*

Regarding claims 10-11 & 13-18:

480 Claims 10-11 & 13-18 are rejected on the same grounds as claims 1-2 & 4-9 respectively, as detailed above.

Response to Arguments

Applicant's arguments filed 5/24/2006 have been fully considered but they are not persuasive. Applicant argues:

485 Cook discloses *principal components of the invention* in fig. 2A that include material and tools area 220, agent area 215, and system toolbar 218. (Column 16, lines 51-58.) Cook discloses toolbar 218 merely for selecting particular available *system components*. (Column 17, lines 8-14.) However, as disclosed by Cook, *system components* are different from *components of the invention*. *System components* are components that are maintained by the operating system and include memory resources, processing resources, and I/O resources. (Column 16, lines 4-30.) Consequently, system toolbar 218 does not provide access to various *components of the invention* through a published user interface.

490 Moreover, with the above feature of claim 1, each component supports activities in a plurality of development phases of a simulation. Cook merely discloses a student client system when a session is in progress with materials being presented. (Column 17, lines 16-18.) However, Cook fails to even suggest "each said component supporting activities in a **plurality** of development phases of the simulation" such as during a design phase, build phase, or test phase. (Emphasis added.) Thus, the combination of Cook and
495 Kessler does not suggest the feature of "managing information flow utilizing a table of components to provide a simulation of the actual work environment during the presentation, wherein each component encapsulates behavior and data necessary to support a related set of service through a published interface, each said component supporting activities in a plurality of development phases of the simulation."

500 Examiner disagrees. Cook discloses that the system components accessible from the toolbar include the calendar and scheduling tool (C17:1-15), which are used in determining when particular goal-oriented educational lessons are presented to the student as an interactive educational presentation. These system components are therefore **not** limited to components maintained by the operating system as alleged by Applicant. Furthermore, Cook discloses that components of the invention include an on-screen agent persona and a portion of the screen in
505 which the student can interact with the on-screen agent such that it receives meta-requests and displays meta-responses (C17:1-15). This published interface therefore clearly allows the student to access services supported by software components such as student identity verification components and the downloaded instructional materials downloaded for the student by the executive software (C17:15-40). These components certainly allow for the development of the presentation that the student interacts with. For example, if the student identity verification
510 fails, it logically follows that the student will not be presented with the developed materials scheduled as appropriate

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for the particular student. Therefore, the rejection of claims 1-2, 4-11 & 13-18 under 35 U.S.C. 103(a) as being unpatentable over *Purcell*, *Cook*, and *Goleh* stands.

Claim Rejections - 35 USC § 103

515 Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Purcell* (USPN 5,727,161), *Cook* (USPN 5,727,950), and *Goleh* (USPN 5,372,507) as applied to claims 1-2, 4-11 & 13-18 above, and further in view of *Clancey* (USPN 4,847,784).

Regarding claim 3:

520 The combination of *Purcell*, *Goleh*, and *Cook* fails to explicitly teach:

the step of instantiating a component from the table of components to interrupt and interview a student to obtain information to measure progress toward the goal and determine appropriate feedback.

Clancey discloses:

525 the step of instantiating a component from the table of components to interrupt and interview a student to obtain information to measure progress toward the goal and determine appropriate feedback (C1-18 especially "when any of the interrupt conditions 30 occur during the test consultation, the test consultation is interrupted and the evaluation system 34 is operated to prompt the student 27 for information pertaining to the condition having caused the interrupt. ... After probing the student 27 for a response, the response is compared to the knowledge in the knowledge base 22

530 pertaining to the interrupt condition in order to evaluate the student's knowledge and performance. As shown in FIG. 2, the result of the comparison is recorded as a record 46 of the student's knowledge and performance" C9 L60-C10 L16 and "The instruction is therefore easily tailored to the subject domain and

535 the needs of the student by appropriately selecting the trap expressions and the test cases. The trap expressions and the test cases are, for example, stored in a case library, and the cases could be ranked, for example, in order of increasing difficulty and student experience level" C15 L40-50).

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Motivation

540 *Clancey* and the combination of *Purcell*, *Goleh*, and *Cook* are from the same field of endeavor, computer-based instruction. At the time of the invention, it would have been obvious to the person of ordinary skill in the art to add the interruption and interviewing taught by *Clancey* to evaluate the progress of the student and provide appropriate feedback in the interactive, adaptive, self-paced computer-assisted instruction and homework system delivered over widely computer networks to allow managers and investors to learn, in

545 the individualized instruction style best suited to them, to use the spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal as taught by the combination of *Purcell*, *Goleh*, and *Cook*. Motivation for doing so would have been "to provide a practical domain-independent tutor shell accepting the knowledge base of a consultation system and providing instruction tailored to the subject domain

550 and the needs of the student ... which easily accepts domain-dependent tutoring knowledge from a user ... [and] to provide a knowledge based tutor capable of extending its own knowledge base" (*Clancey* C6 L1-30) in "a practical domain-independent tutor shell accepting the knowledge base of a consultation system and providing instruction tailored to the subject domain and the needs of the

555 student. For easily accepting domain-dependent tutoring knowledge from a user, the domain knowledge base is analyzed for possible interrupt conditions or traps which may occur during a test consultation ... Moreover, the computer execution time during a consultation interrupt is substantially decreased by compiling and indexing portions of the domain knowledge base which relate to

560 the interrupt conditions" (*Clancey* C15 L30-60). Therefore, it would have been obvious to combine *Clancey* with the combination of *Purcell*, *Goleh*, and *Cook* to get an interactive, adaptive, self-paced computer-assisted instruction and homework system, capable of interrupting and interviewing the learner to evaluate progress and provide appropriate feedback, delivered over widely computer networks allowing managers and investors to learn, in the individualized instruction style best suited to them, to use

565 the spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal for the benefit of providing instruction tailored to the subject domain and

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the needs of the student while decreasing the computer execution time during a consultation interrupt by compiling and indexing portions of the domain knowledge base which relate to the interrupt conditions.

570 **Regarding claim 12:**

Claim 12 is rejected on the same grounds as claim 3, as detailed above.

Response to Arguments

Applicant's arguments filed 5/24/2006 have been fully considered but they are not persuasive. Applicant argues:

575 Claims 3 and 12 ultimately depend from claims 1 and 10. Because Clancey does not remedy the deficiencies of Purcell, Cook, and Goleh, claims 3 and 12 -3 are patentable for at least the above reasons.

Examiner has shown above that the rejection of claims 1-2, 4-11 & 13-18 under 35 U.S.C. 103(a) as being unpatentable over *Purcell*, *Cook*, and *Goleh* stands. Therefore, Applicant's argument is moot and the rejection of claims 3 and 12 under 35 U.S.C. 103(a) as being unpatentable over *Purcell*, *Cook*, *Goleh*, and *Clancey* stands.

580

Double Patenting

Response to Arguments

Applicant's arguments, see page 10, filed 5/24/2006, with respect to the obvious-type double patenting rejection with co-pending Application No. 09/868,669 have been fully considered and are persuasive. The rejection of claims 585 1-18 as provisionally rejected for double patenting has been withdrawn.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

590 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the 595 statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Claims 1-18 are rejected.

Correspondence Information

600 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Buss whose telephone number is 571-272-5831. The examiner can normally be reached on M-F 9AM-5PM.

As detailed in MPEP 502.03, communications via Internet e-mail are at the discretion of the applicant. Without a written authorization by applicant in place, the USPTO will not respond via Internet e-mail to any Internet
605 correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. 122. A paper copy of such correspondence will be placed in the appropriate patent application. The following is a sample authorization form which may be used by applicant:

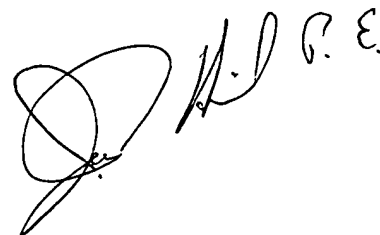
610 "Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

615 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

620 Benjamin Buss
Examiner
Art Unit 2129

BB

A handwritten signature in black ink, appearing to be 'B. Buss', is written over the printed name and title of the examiner.